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# **REPORT**

ON

## **Railroad Station Approach**

AND

## **Harbor Front Improvements**

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MADE TO

Hon. FRANK J. RICE, Mayor of the City of  
New Haven

MR. AMOS F. BARNES, Chairman Aldermanic  
Approach Committee

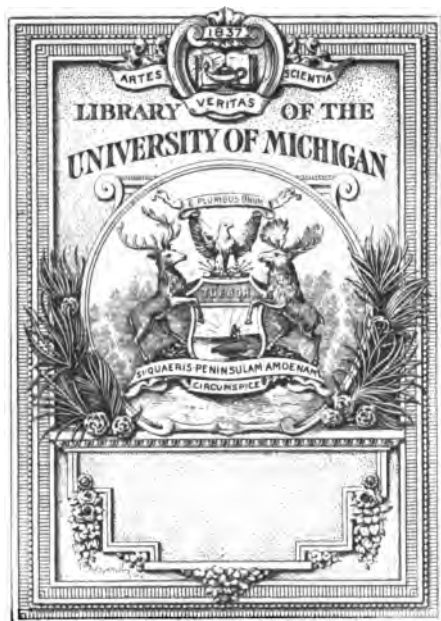
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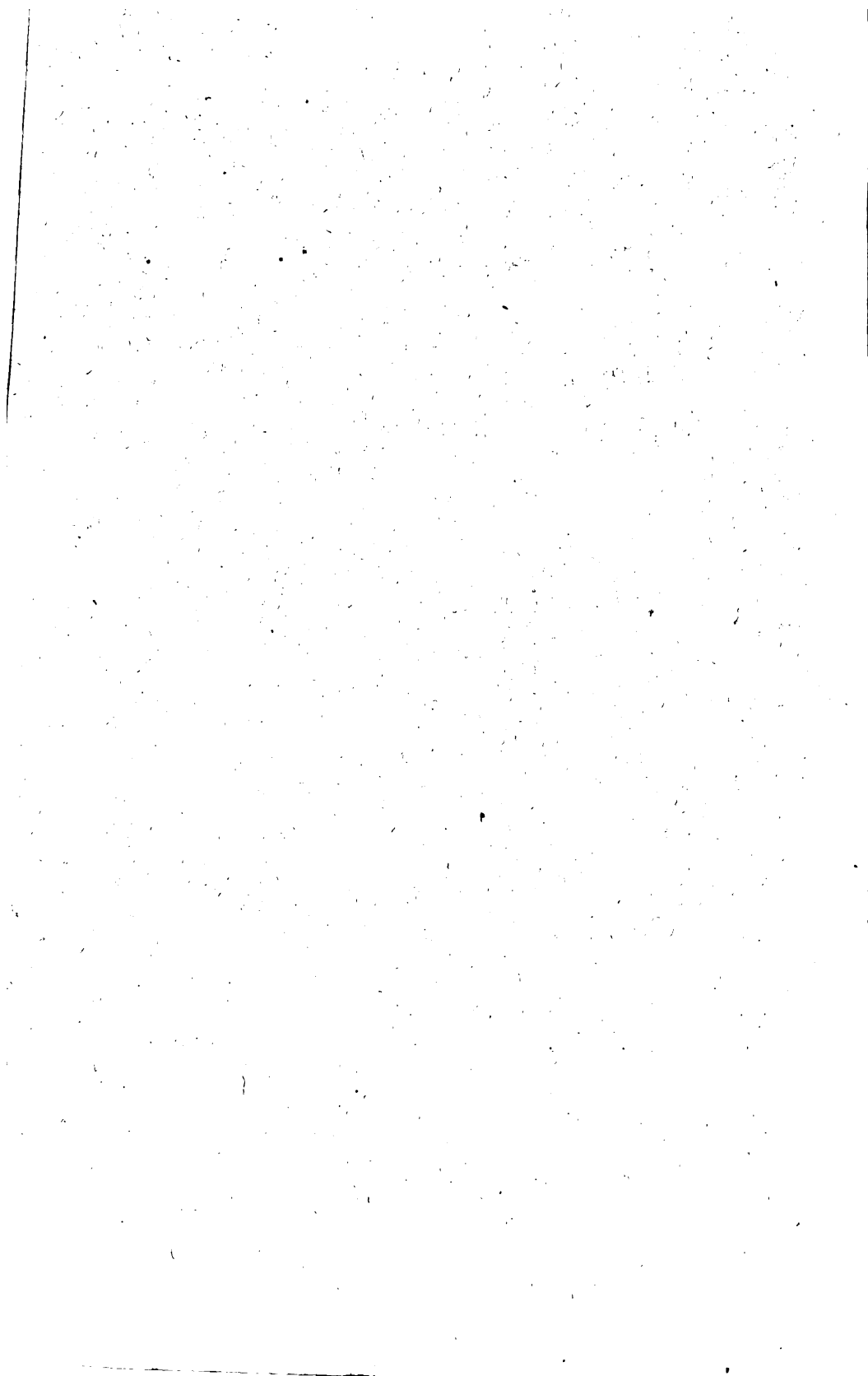
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NEW HAVEN, CONNECTICUT, SEPTEMBER 24

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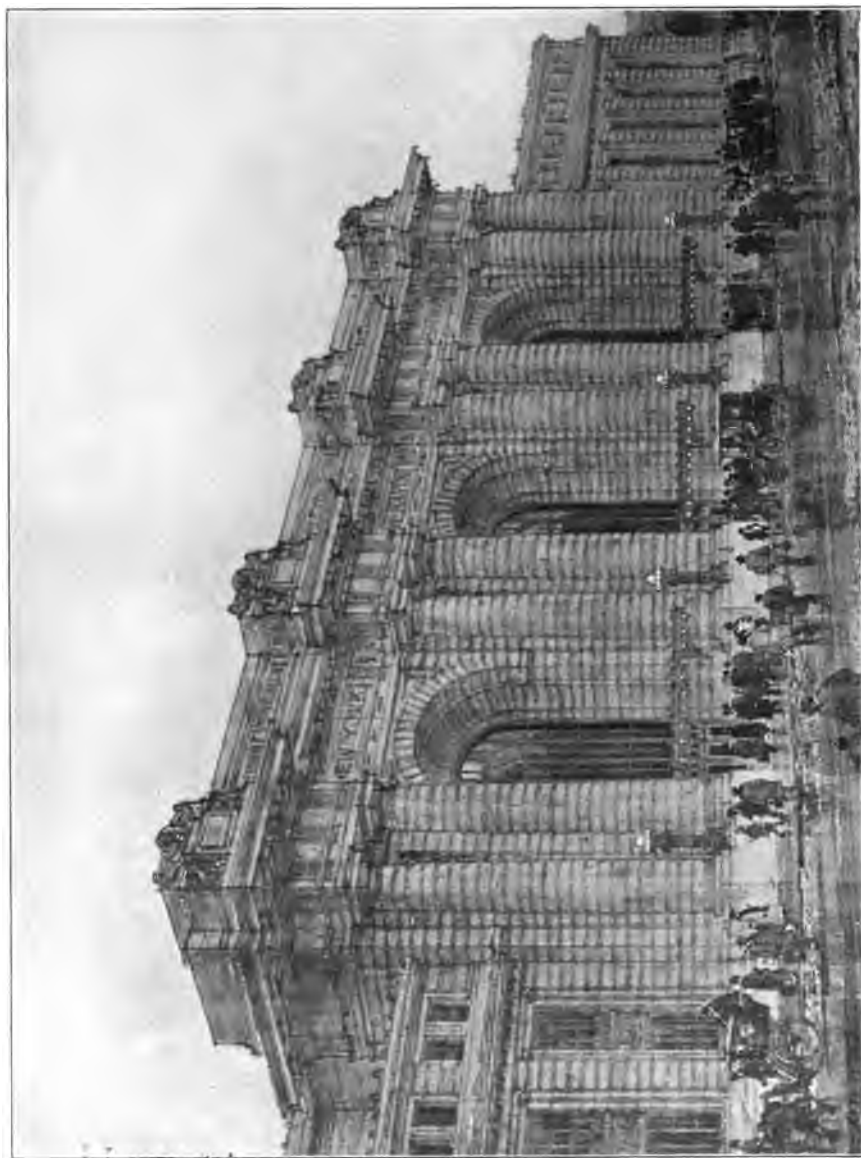
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PROPOSED RAILROAD STATION FOR NEW HAVEN

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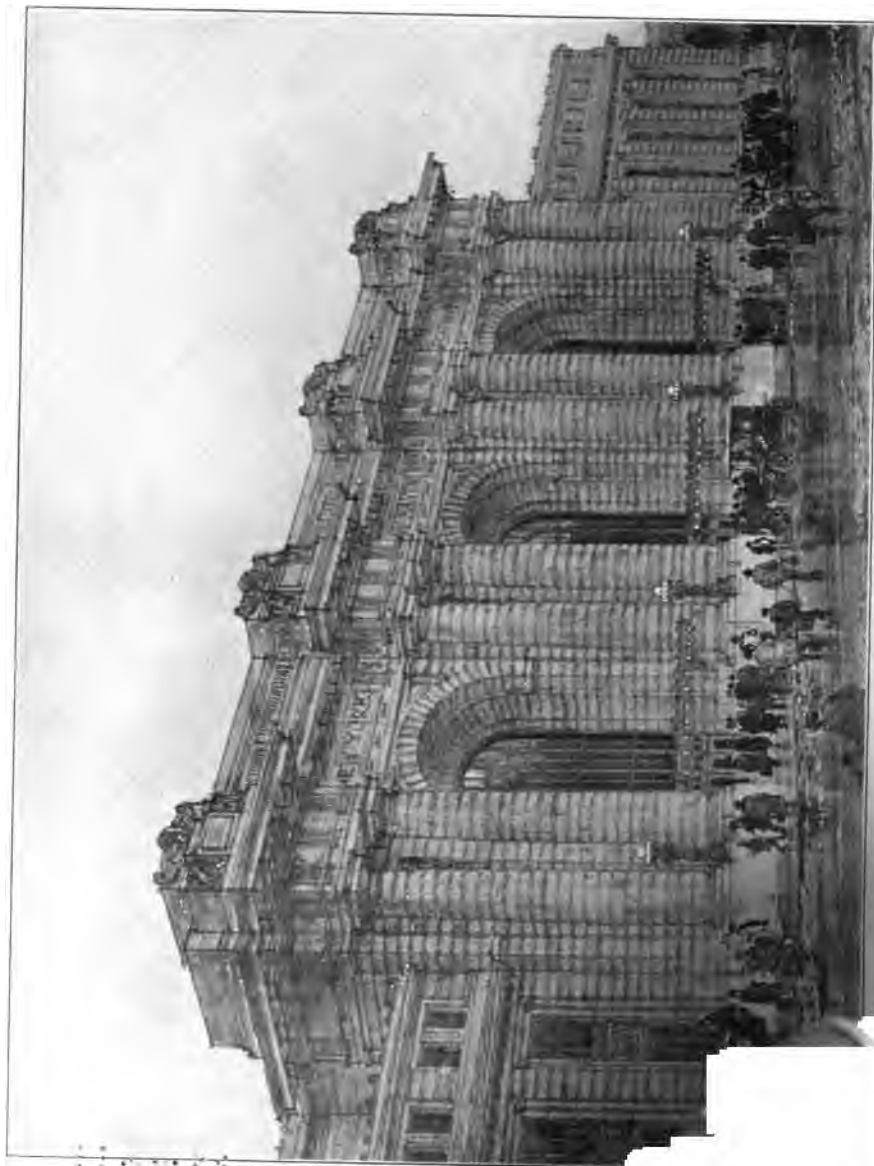
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**NEW HAVEN, CONNECTICUT, SEPTEMBER 24**

**1912**





PROPOSED RAILROAD STATION FOR NEW HAVEN

**REPORT**  
ON  
**Railroad Station Approach**  
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MADE TO  
Hon. FRANK J. RICE, Mayor of the City of  
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Approach Committee

BY

ERICK J. FORD

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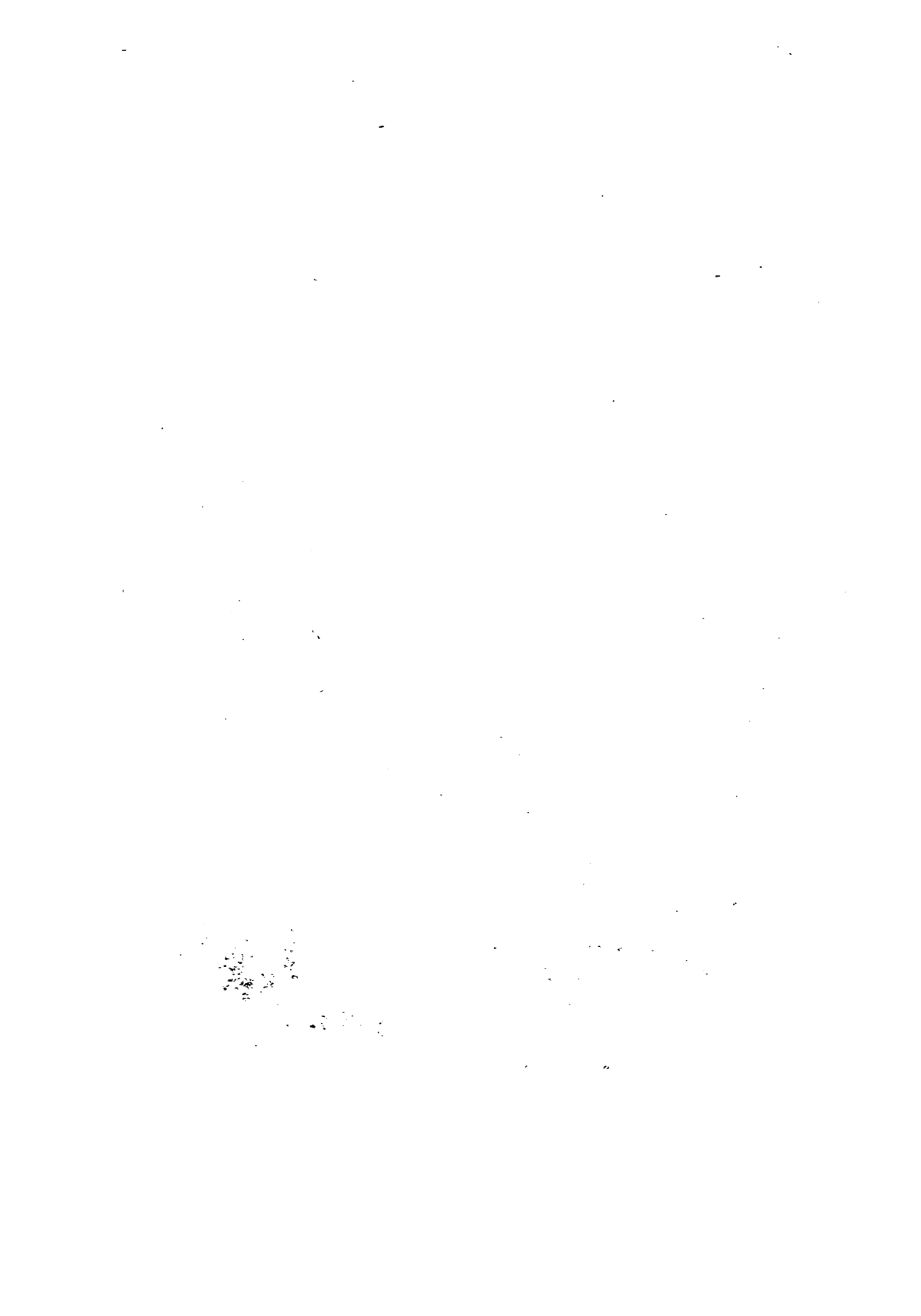
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View of High Signal Tower on the proposed Armory for the Second Infantry, C. N. G., New Haven, Conn., as seen from the station approach near Congress Avenue

NEW HAVEN, CONN., September 24, 1912.

*Hon. Frank J. Rice, Mayor of the City of New Haven;*

*Mr. Amos F. Barnes, Chairman, Station Approach Committee of  
the Board of Aldermen:*

### INTRODUCTION

Pursuant to your verbal request, I have made a preliminary study of a suitable approach to the proposed new Railroad Station, and other problems directly or indirectly relating thereto, and submit the following report for your consideration:

At our interview with the Railroad Officials, Mr. Edwin H. McHenry, Vice-President, and Mr. Edward Gagel, Chief Engineer, stated that the location of the new station on the southerly side of Union Avenue, opposite the triangular block bounded by Water and Portsea Streets and Union Avenue, was fixed by the exigencies of Railroad engineering, and could not be moved in either direction. This location is substantially midway between the Water Street overhead bridge on the east, and the similar one at Cedar Street on the west. Between these two controlling factors, it is essential to have a summit in grade for the main line tracks, to facilitate the stopping and starting of trains, in accordance with the best modern practice. It is also necessary to have stub end tracks at each end of the new station for local trains out of New Haven, and these tracks should be of similar length and not less than a fixed minimum. With the station placed midway between Water and Cedar Street bridges, the length of these tracks would be about a minimum for the number of cars used on local trains.

In studying the depot approach problem, two important factors have been kept in mind, first; that while the approach is distinctly a New Haven problem and must be solved and paid for by New Haven, we should not lose sight of the fact that it is a greater New Haven we are daily striving for, and anything and everything we can do to make New Haven more accessible, more convenient and more attractive, both as a residential city, and as a great business center, should not be overlooked.

We not only want an approach which will be commodious, convenient, useful and attractive for New Haven people who do business and live in New Haven, but one which will be equally serviceable and satisfactory to the thousands who daily do business in New Haven, but who live elsewhere. We also want to consider the

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great accession of population in the outlying towns, which will follow the electrification of the railroad lines into New Haven.

Secondly: That while New Haven can well afford to lay out and construct a worthy approach to the new Railroad Station, there is a certain limit in the net cost, beyond which the city would not be justified in going. No city can well afford to expend unreasonable sums on any particular municipal function, at the expense of other equally worthy municipal functions. There are certain large municipal expenditures, which cannot be avoided in intelligent, well ordered communities, such as those necessary for pure, wholesome, abundant and unfailing water supplies, good sewerage systems, and proper methods of sewage disposal; the collection and disposition of ashes, rubbish, garbage and other city refuse, in an inoffensive, sanitary manner; proper equipped, well organized and well disciplined fire and police departments; and good transportation facilities. These are absolutely essential for the preservation of health, the protection of life and property, and for proper communication between home and business. There are other highly important municipal functions. We must have good schools; a well laid out street system, well lighted, well policed, well paved and well cleaned streets to do business over, and convenient, well located and well arranged public buildings to do public business in; numerous parks, accessible to all, children's playgrounds and other healthful open air spaces, and recreation centers; good hospitals, and public institutions for the aged, infirm, crippled and dependent. There are still other municipal functions of more or less importance, some desirable, but not all essential. While the cost of providing these various municipal functions may vary within wide limits, due to peculiar geographic or topographic conditions, and while they may be somewhat unbalanced by extravagance or parsimonious economy, it will be found that the average cost for each, based upon a large number of cities, bears a certain relationship, either to population, or area of city, or both.

The city which makes the best and soundest progress, usually is the one which develops, in an orderly, symmetrical and healthful manner, with due regard for and proper apportionment of the city's budget, among the various municipal functions and departments.

What New Haven must avoid, if it is to maintain its position of prestige among American cities of its size and class, is a haphazard, unsymmetrical, unnatural and unhealthful growth.

The question of first importance, therefore, in connection with the Depot Approach, is whether the City of New Haven can expend a reasonable sum for this improvement, without crippling, or holding back, other worthy public improvements; and secondly, how much can reasonably be expended for this purpose.

New Haven does not want to expend so large a sum on this one improvement, that other desirable public works will suffer. Neither







View from roof of Hotel Garde, looking southwesterly toward City Point. Arrow shows pole marking the central entrance of the new Railroad Station.

1910

should it enter upon this undertaking half-heartedly, or carry out the improvement in such a narrow, short sighted, or restricted way, that the work, when completed, will be disappointing in itself, or retard, or confine within narrower limits, the growth in business, and enhancement of realty values, which should naturally follow such a large public work.

If the approach as originally conceived, was to terminate at the new station and merely serve people and vehicles to and from the station, the expenditure for this improvement might be questioned, but in the pursuit of my study, other highly important problems have developed, which seem to be of equal, if not of even greater importance than the approach itself. So that if the general plans now proposed are adopted, the station approach would become merely a connecting link between two great thoroughfares from the heart of the city, to the east and west shore towns, by way of the new Railroad Station.

The tremendous saving in distance, time and money, from directness, convenience and accessibility of these two new routes; the great accession to the grand list from the improvement and development of property fronting thereon; as well as the great importance to future New Haven, from closer connection with these large, populous outlying sections, should not be overlooked.

## PART I

### 1. NEW STATION APPROACH FROM UNION AVENUE TO GEORGE STREET

For the main station approach, it is planned to open a new highway 150 feet in width from the central entrance of the new station on Union Avenue straight to the southwest corner of the proposed enclosed market-place at the intersection of Water and Silver Streets, with Commerce and Hill Streets. The grade of this section would be substantially that of the present streets crossed by the new approach. From the enclosed market-place to Congress Avenue, the approach is to be made by widening Commerce Street wholly on the westerly side to a width not exceeding 125 feet. The grade and alignment of the easterly side would remain unchanged, and undamaged. Between Congress Avenue and George Street, the approach can be narrowed down to 85 or 90 feet, depending somewhat upon the shape and limit of the different properties involved.

The use of Commerce Street for the new approach seems to have many advantages, and few disadvantages. It will serve Church Street, the present most frequented street to the depot, as well as Meadow Street now does, as the northerly end of Commerce Street opens almost directly into the large intersection, at the junction of Congress Avenue, Meadow, George and Church Streets. It fits the

local conditions much better than any of the straight approach plans, and can be carried out with much less interference with, or readjustment of street and property lines.

Commerce Street lies in a natural valley, where the alignment is good, and the grades are easy. It is so near Meadow Street, the present most frequented route to the station, that its use will cause practically no inconvenience to present or future users. The present station has now been used for many years, and people within and without New Haven have formed the habit of traversing certain streets to and from it. Business has naturally followed the line of maximum traffic and has been largely located on Meadow Street. Having been so located, with special reference to the permanency of the railroad and depot, it would be unwise to make any radical change in the location of the new station or the main approach which would upset or destroy the present stability of values in that section, or cause too great a general readjustment of custom or business to meet the new conditions; unless it can be conclusively shown that some other location for the station, as well as the main approach, offers advantages far superior to those in the vicinity of the present railroad station. In order to see how the new approach will accommodate the business interests, it is well to study their location and requirements. The concentrated retail and wholesale district of New Haven is bounded on the east by the Railroad Cut, on the south by Water and Whiting Streets and Congress Avenue, on the west by Factory, College and York Streets, and on the north by the College Campus, the Green, and Elm Street. The longer axis of the district extends from the junction of State Street and Grand Avenue to Congress Avenue, near Lafayette Street, and the shorter one from Chapel and York Streets to Water and State Streets. It would be difficult to define the center of volume of business done within this district, but it is probable that the maximum amount of retail business is transacted in the blocks bounded by Chapel, State, Crown and Temple Streets; and the maximum of wholesale business in the blocks bounded by Elm Street, the Railroad Cut, George and Orange Streets. While all sections of the city should be reasonably accessible to the new station, the business district is more directly and more vitally interested in the approach than any other, because many people walk from the railroad station to the business district, and directness and distance especially are important factors with them.

The use of Commerce Street for the approach places it along the edge of the concentrated business district, without penetrating it to such an extent as to make the cost prohibitive. The business district of New Haven will continue to expand with the rapid natural growth and development of New Haven, even without a new approach, but it is believed that the development of Commerce Street into a convenient, commodious, and attractive approach will

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View from roof of Hotel Garde, looking northerly along the westerly line of Commerce Street, which will practically be the center line of the main approach between Water Street and Congress Avenue. Black lines show present easterly line of Commerce Street and the two street lines of the new approach. Arrow shows old Derby Depot, located about in the center of Central Market Square, to be demolished. Roof in foreground, James F. Wheeler Building, which may be demolished for the N. Y. N. H. Railroad.

accelerate this growth and influence it more toward the new station. The low point in the grade on Congress Avenue is between Commerce and Hill Streets, the elevation of each being nearly the same, and any attempt to place the northerly end of the approach farther west than Hill Street would involve grade difficulties and indirectness, and would be so far from the present most frequented route, Meadow and Church Streets, that it is probable that a large majority of people would continue to use the present means of approach. The use of Commerce Street as the main approach, is dictated not alone by business considerations, nor by observed lines of travel, but largely by the topography of the region, from which there is no escape.

Several of the straight approach plans, from the new station to Congress Avenue, cut the city blocks west of Meadow Street in such a diagonal manner that it would be necessary for the city to condemn a large amount of private property outside of the street lines; then to discontinue portions of several streets and latter resell the land acquired outside of the approach limits, with or without restrictions. While such a plan would no doubt reduce the net cost of the approach, if such additional land could be held for the enhancement of values which should follow this public work, the gross cost would be greatly increased, and the right of the city to condemn and then resell under our Charter and the Connecticut Statutes might be questioned. If any of the straight layouts for the main approach were practicable, and within the city's means, people would disagree over the adoption of such a plan, for a straight vista over half a mile in length would be more tiresome and seem much longer to the pedestrian, especially, than the same length divided into two sections, with a changing vista.

The question of the desirable width of the approach, as well as the apportionment of that width, between sidewalks and roadway, should receive considerable study. In view of the length and cost of the approach, if made too narrow, the general effect would no doubt be disappointing. If made too wide, it would undoubtedly interfere with, and possibly retard, its development into a good business street. I believe the width of the approach, between Congress Avenue and Central Market Square, should be 125 feet. I base this opinion on two sidewalk spaces of 25 feet each, and a roadway width of 75 feet. It is planned to provide for double street railway tracks in the center and the clearance lines of cars when passing are about 21 feet apart. On each side of these tracks there should be room for three lines of vehicles; one standing at the curb line, a moving vehicle passing, and a faster vehicle passing both. Traffic experts have heretofore based roadway widths on vehicle widths of 8 feet, but as no attempt has yet been made to standardize the width of wagon or auto bodies, and as the speed is increasing with the growing use of motor vehicles, I feel that it

would be better judgment to adopt 9, rather than 8 feet, as the vehicular unit width for the new approach, and on this basis the minimum width of roadway would be 75 feet. Even greater care should be exercised in determining the sidewalk widths, and these should not be skimmed. The front foot value of retail store property varies directly with and almost wholly upon the number of people daily passing. People have the habit of loitering along, especially when shopping, and they are attracted from store to store by the window displays, and if the condition of the sidewalk, because of its narrowness, becomes crowded, uncomfortable and inconvenient, people will avoid such congestion and trade on streets where there are wider walks and more comfort. The usual rule in American cities has been to make each sidewalk one-fifth of the total street width. On business streets, where the walks have been made less, the congestion is self evident. On Main Street in Springfield, Massachusetts, between the Boston & Albany Railroad and Court Square, where the street varies in width from 75 to 64 feet, and the sidewalks are  $10\frac{1}{2}$  and  $8\frac{1}{2}$  feet, respectively, the narrowness and congestion of sidewalks is very conspicuous. In our city, Chapel Street, east of Church Street, is 62 feet wide and each sidewalk 12 feet; considerably too narrow for this busy thoroughfare, as most New Haveners must admit, especially on good shopping afternoons. Michigan Avenue in Chicago has recently been widened from 90 to 130 feet. The sidewalks formerly were 20 feet in width and now are 30 feet, or four more than the one-fifth rule, but admittedly none too wide. On Market and Broad Streets in Philadelphia, where the walks are slightly less than usual rule, and on Main Street at the "Four Corners" in Rochester, where the rule is observed, the walks are too narrow, rather than too wide. With a roadway width of 75 feet, I believe that New Haven would make no mistake in adopting 25-foot sidewalks for the main station approach.

The following table gives the sidewalk and roadway widths of important business streets in typical American cities:

City.	Street.	Total Widths	Sidewalk Widths	Roadway Widths
Albany .....	State .....	138 feet	23 feet	92 feet
Bridgeport ....	East Main .....	68 "	15 "	38 "
Bridgeport ....	State .....	66 "	10 "	46 "
Chicago .....	Michigan Ave. ....	130 "	30 "	70 "
Cleveland .....	Superior Ave. (through Monument Square and easterly)....	132 "	28 "	76 "
Cleveland .....	Euclid Ave. ....	99 "	19.5 "	60 "
Columbus .....	High .....	100 "	20 "	60 "
Indianapolis ..	Washington .....	120 "	20 "	80 "
Minneapolis ...	Hennepin Ave. ....	100 "	18 "	64 "
Newark .....	Broad .....	132 "	20 "	92 "
New Haven...	Chapel (west of Church St.)....	75 "	14.5 "	46 "







View from roof of the Garde Hotel, showing the Coyle and Curtiss property to be taken to form, with the two adjacent triangular areas of the N. Y., N. H. & H. R. R. Co., a splendid Plaza in front of the new Railroad Station. The main station approach will pass through the middle of this Plaza.

City.	Street.	Total Widths	Sidewalk Widths	Roadway Widths
New Haven...	Chapel (east of Church St.).....	62 feet	12 feet	38 feet
New York....	Fifth Ave. ....	100 "	22.5 "	55 "
New York....	Twenty-third St. ....	100 "	23.5 "	53 "
New York....	Forty-second ....	100 "	22.5 "	55 "
Philadelphia ..	Broad ....	113 "	22 "	69 "
Philadelphia ..	Market ....	100 "	19 "	62 "
Rochester ....	Main ....	100 "	20 "	60 "
Springfield ....	Main ....	75 "	10.5 "	54 "
Springfield ....	State ....	75 "	12.5 "	50 "
Syracuse ....	Salina ....	99 "	21.5 "	56 "
Washington ...	Pennsylvania Ave. ....	160 "	26.5 "	107 "

Practically no study has been given to the detailed treatment of the approach, viz.: Width and material of hardened sidewalk spaces, kind of curbing, paving, trees, tree spaces, trolley poles, lighting standards, street sign posts, etc., but all of these street improvements and street fixtures, should be in accordance with the best sanitary and civic practice and thoroughly in keeping with the importance and dignity of the approach; the front door entrance or vestibule of New Haven. In the adoption of final plans, the desirability of extending Water Street westerly from Commerce Street to connect with Minor Street should be carefully considered, as this connection would then make a continuous street from State Street to Howard Avenue, which would well serve the wholesale merchants located on Minor Street, presumably for the advantage of the railroad facilities in the rear. This change should, however, be studied with special reference to its effect upon the development of the proposed wholesale and retail public market site and the land adjacent on the south.

## 2. UNION STATION PLAZA

In front of the new station, it is planned to take all of the property on the easterly side of Water Street, between Portsea Street and Columbus Avenue, and combine it with the two triangular pieces, now owned by the Railroad Company, into one good-sized Plaza of about  $2\frac{1}{2}$  acres. This open space, bounded by Columbus Avenue on the north, Union Avenue on the east and south, and Water Street on the west, directly in front of the new station, will be none too large for easily and quickly handling the large crowds which assemble at the station, or to make a favorable first impression, which usually is the most lasting one, upon the stranger as he enters the portal of the city. Even this enlarged area will be small in comparison with the openness in front of the Railroad Stations in Washington, Waterbury, Hartford, Providence, Portland and many European cities.

The new station approach would pass through Union Station Plaza and open almost directly into the spacious Market Square.

### 3. CENTRAL MARKET SQUARE AND GROUP OF PUBLIC OR SEMI-PUBLIC BUILDINGS

At the intersection of Water and Silver Streets with Hill and Commerce Streets, the conditions are almost ideal for the development of an enclosed market place, so common in many European cities, where the vista, as one approaches from any direction, is closed by the façade of an interesting building and from the center of which the vista in any direction is similarly intercepted by public buildings. Here it is planned to open a rectangular space, about 250 by 320 feet, in the vicinity of the old Derby Depot, to be eventually surrounded with public or semi-public buildings limited in height to a minimum of about 90 and a maximum of 125 feet, or about that of the new station. Not only should a reasonable limit be placed upon the height of buildings surrounding the enclosed market place, but it should be extended to include all buildings hereafter erected around Union Station Plaza, and that short section of the approach between the two open public spaces. This limit would correspond very well with the remodeled Garde Hotel and the Railroad Office Building heights.

In a treatise on "Regulations concerning height and appearance of Buildings," in the December, 1911, issue of "Case and Comment," Mr. Robert A. Edgar, of the New York Bar, says:

"It has recently been held that a State may constitutionally limit the height of buildings or permit a municipality to do so without compensation, when this is done in the exercise of the police power to prevent injury to life or limb, or loss of property by fire, or injury to health by cutting off of light and air. *Welch v. Swasey*, 214 U. S. 91, 53 L. ed. 923, 29 Sup. Ct. Rep. 567, affirming 193 Mass. 364, 118 Am. St. Rep. 523, 79 N. E. 745, 23 L. R. A. (N. S.) 1160; *Cochran v. Preston*, 108 Md. 220, 129 Am. St. Rep. 432, 70 Atl. 113, 15 A. & E. Ann. Cas. 1048, 23 L. R. A. (N. S.) 1163.

"It has also been held, however, that the height of buildings cannot be limited, under the police power and without compensation, for purely aesthetic reasons. *Cochran v. Preston*, 108 Md. 220, 129 Am. St. Rep. 432, 70 Atl. 113, 15 A. & E. Ann. Cas. 1048, 23 L. R. A. (N. S.) 1163.

"In the Copley Square Case, *Attorney-General v. Williams* (Knowlton v. Williams) 174 Mass. 476, 55 N. E. 77, 47 L. R. A. 314, affirmed in 188 U. S. 491, 47 L. ed. 559, 23 Sup. Ct. Rep. 440, the supreme court of Massachusetts, in an interesting opinion, held to be constitutional an act of the Legislature which, after providing for compensation, limited the height of buildings surrounding a public square in Boston, in order to promote its beauty and attractiveness, and to prevent unreasonable encroachments upon the light and air previously received, and further providing that above the limits fixed





View from second story window of old Derby Depot, looking westerly. About 2 acres of this area extending to Lafayette Street extension across the railroad tracks, to be used for Public Market Place in rear of Wholesale and Retail Market Building on the westerly side of Central Market Square

there might be erected such steeples, towers, sculptured ornaments, and chimneys as the park commissioners might approve.

"If the reasoning of the Copley Square Case should be adopted, and it seems to be sound and to have met with approval whenever discussed, it would be constitutional for the Legislature on making compensation, for purely aesthetic reasons, to authorize a municipality to limit the height and style of architecture of private buildings, where the purpose is a public one, such as to preserve the architectural harmony and beauty of a public square, or of surroundings of a public park or building."

Hence there should be no great difficulty in securing proper authority from the incoming Legislature, to carry such a plan into effect. In this particular instance, it would seem highly desirable if some authoritative municipal commission, possibly a City Plan Commission, could go even further and pass upon the character of, as well as the details of color and kind of materials used for the façades of the public or semi-public buildings surrounding these public spaces, in order to secure an attractive, imposing and dignified architectural ensemble. The idea being not to impose a rule which would stifle individuality, but would prevent the heterogeneous character of buildings which disfigure so many American cities. This group of buildings would occupy a conspicuous place at the slight angle in, and about at the middle of the main approach, and the traveler's interest would be centered in this group as he passed from the station to town or in the opposite direction. Likewise, as one approached Central Market Square, by way of Water, Silver, or Commerce Street, his attention would be directed to and his vista would be closed by the façade of a member of this group.

I have used the term "Central Market Place or Square" for this proposed public open space with surrounding buildings intentionally, with the hope and expectation, that the buildings on one or more sides of the enclosure may be used for wholesale and retail public markets for this city. I have no way of knowing what the sentiment of New Haven would be toward the introduction of such a municipal function, but I have had an opportunity of visiting and studying public markets in many American and European cities, and I know the sentiment of the people of those cities regarding the value of public markets. I also know that the use of Commerce Street as the main approach will displace an industry in New Haven of which I believe few people realize the magnitude or the extent or fully appreciate its great importance as a factor in the cost of living. The business I refer to, is little seen by the ordinary citizens, because it is largely carried on while most of us are asleep and has largely disappeared by the time we are ready for our day's work.

During the early morning hours, 300 or more farmers and market gardeners assemble on Commerce Street, south of Whiting Street,

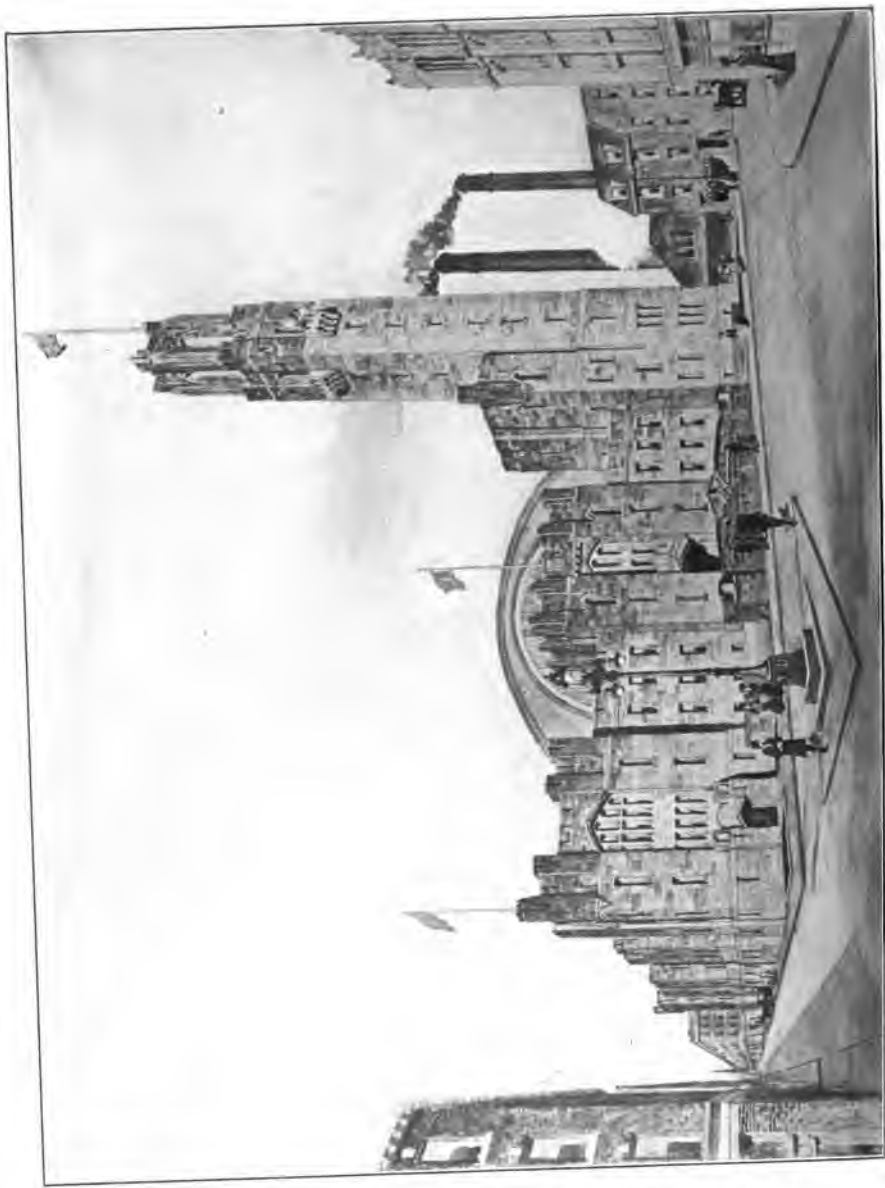
under police regulations, and there largely, if not wholly, dispose of their farm produce to retail merchants and hucksters. I was recently told by one of these men that a short time ago, at 4:00 A. M., he was unable to find room for his team on either side of Commerce Street, south of Whiting Street, and that many teams have to use Water and other streets in that vicinity for overflow purposes. I have also been informed that there is a decided advantage in having a wholesale market place near the railroad station, because buyers from other Connecticut cities and from places as far away as Boston and New York, come to New Haven, buy of the producers and ship their produce for sale in their home cities. With so large and so important an industry right in our midst, with New Haven surrounded by rich, fertile and productive agricultural and market gardening land, and with sea food in abundance at our very door, New Haven should do all in her power to develop this business, and to furnish better facilities for it, as the economies effected would reach and benefit both the producer and the consumer. The very existence of this impromptu public market which has grown up without assistance, shows the great need of public markets under municipal supervision in New Haven.

Within a few years the city of Rochester, N. Y., has opened a public market place alongside of the New York Central Railroad, covering 12 acres. On it are paved roadways, long, attractive open sheds, with overhanging roofs to protect the teams backed up on either side, and with wide aisles for buyers to view the interesting displays, toilet convenience for men and women, watering troughs and sanitary drinking fountains, and a railroad siding for shipping produce in or out of Rochester in carload lots. This particular market place is for wholesale purposes only—a place where farmers can show and dispose of their produce in bulk, and I am informed by Mr. Fisher, the City Engineer of this enterprising city, that on some days there are from 1,000 to 1,200 market gardeners from the rich Genesee Valley, who take advantage of this splendid municipal service.

It is planned to extend and open up Lafayette Street, across the right of way of the Derby Railroad, as one of the secondary approaches to the new station, and if the area bounded by Silver, Hill, Water Street extension and Lafayette Street (about 2 acres) could be acquired, it would make an excellent location for a wholesale market place, similar to that in Rochester, N. Y. The entire area could be paved, so as to be easily cleaned by flushing at the end of each day's use, it has a railroad connection, it is near the new station, and is right in the vicinity of that section of Commerce Street now similarly used. This enterprise could be started in a small way, with a few sheds for protection from inclement weather, and, if successful, as I am confident it would be, the place could be further developed from time to time to meet the growing requirements.







Proposed Armory for the Second Infantry, C. N. G., New Haven, Conn. This building would occupy as commanding a position at the northerly end of the main approach as the new Station Group would at the southerly

The discussion thus far has been confined to a wholesale market, but it seems to me, that in connection therewith, the city should start a retail public market. In my opinion, there is no better location for such a market than in connection with the wholesale market. This particular location would be within easy walking distance of as congested a residential district as there is in New Haven, and one which is largely populated by people from foreign lands, where public markets are as common and popular as cafés and cathedrals. After the disastrous fire the city of Baltimore built a group of three splendid public market buildings on Jones Falls near the heart of the city; as I recall it, one is used wholly as a fish market, another as a wholesale, and the third as a retail market. The second floor of one of the buildings is used as a Mechanics Hall. The area to the west of George and Meadow Streets and Union Avenue could well be served for this location, and, if the project proved successful, and there was a general demand for similar service from other sections of the city, smaller retail markets could later be established to meet such requirements. I believe that, notwithstanding the general increase in the cost of living, the overhead expenses of many small merchants are burdensome, and an opportunity to rent stalls in a public retail market would be welcomed by them as well as by others who wish to start in business in a small way, and that such retail markets would be popularly supported. The retail market that I have in mind eliminates the cost of delivery, which is burdensome to people of moderate means.

The city might construct one of the group of public buildings, that on the westerly side of the proposed Central Market Square, which could be devoted to wholesale and retail uses, and for the location of offices for commission men doing business with the patrons of the markets.

The Railroad Company might construct another office building on the southerly side of the square, as they now own all of the property on that side of Water Street, between Meadow and Commerce Streets. No suggestion has been made as to the uses of the remaining two buildings in the group, but these need not necessarily be either public or semi-public buildings, provided, they are designed and built in conformity with the general restrictions already referred to, which should be placed upon this group.

The slight angle in the main approach would be in Central Market Square, and people would pass from one tangent to the next without noticing the deflection.

#### 4. ARMORY SQUARE AND NEW STATE ARMORY

With Orange Street extension carried through to the main approach as planned, the Second Regiment Armory, already outgrown, would be destroyed, and it would be necessary to find another suitable

location. While no doubt there are many sites which might be used for a new State Armory, one in particular would work into the main approach plan with admirable effect and unsurpassed convenience. The site is the block bounded by George, Temple, Commerce and Factory Streets, the dimensions of which are 225 by 385 feet. On this site there would be ample room for a drill hall as large as that in the new State arsenal and armory at Hartford, the fourth largest in this country.

Fortunately, the grade of George Street is about 7 feet higher than that of Commerce Street, and this difference would permit of the construction of a splendid basement lighted upon the whole of the southerly and part of the easterly and westerly sides. Here could be arranged, pistol and rifle ranges, bathing facilities, a gymnasium, bowling alleys, etc.; and there still would be an abundance of room for lockers, the storage of equipment and for various other military uses. If this site could be used, the new Armory would stand in a commanding position at the northerly end of the main approach, with the new station occupying a similar position of advantage at the southerly end. An especially interesting feature could be made of the new Armory by the construction of a high signal tower, on the corner of George and Temple Streets, which would be on the central axis of the approach. The use of this site for the new Second Regiment Armory would not be without historical significance, for it would stand about on the line of the southerly portion of the stockade erected to protect the residents of the original nine-block square from the invasion of the Indians surrounding the New Haven of that period. (For details and cut of the stockade, see *New Haven Sunday Register*, August 25, 1912.)

The proposed signal tower would stand on Temple Street, the bisector of the original square; and it could be so designed and be built so high, as not only to serve the regiment for signalling purposes, but also to become a characteristic feature of greater New Haven's city plan, as the tower on the new Railroad Station is of Waterbury's plan.

The use of this site is certainly worthy of serious consideration in connection with the new station approach. As a stranger left the station and started for the Central Green, his interest would first be centered in the Station Plaza, then upon the group of buildings surrounding Central Market Square, and as he passed these, the new Armory, with its high tower, would burst into view at the head of the approach. But above all other considerations is the paramount one of convenience and strategic advantage.

## 5. TEMPLE STREET WIDENING

In the report of Messrs. Cass Gilbert and Frederick Law Olmstead to the Civic Improvement Commission of New Haven, the widening of Temple Street, wholly upon the easterly side, between

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View from roof of Gas Company's Office Building on Crown Street, looking northerly up Orange Street. It is believed that a view from the same location looking southerly down the proposed Orange Street extension

George and Chapel Streets, was recommended. This improvement seems to me to be highly desirable, if it can be brought about for a reasonable sum, but I fear the cost would be prohibitive at the present time, although naturally less than at any future time. The same result might be attained by the establishment of a new easterly street line, with the understanding, in assessing damages and benefits, that the change would be a progressive one and spread over many years; and that no disturbance would be made of the existing buildings, but that new ones should conform to the new line. The progressive plan of street widening is thoroughly feasible, in accordance with the best practice, and has been started with approval in other American cities. The buildings in the block between George and Crown Streets are mostly old, and the widening here could be carried out without excessive cost; but, in the two blocks north of Crown Street, the difficulty would be greatly increased. However, this improvement should be carefully considered, and not forgotten, for, with the new approach as planned, the traffic through Temple Street to the depot, especially from Whitney Avenue and the large northerly section of the city would unquestionably be greatly increased.

#### 6. ORANGE STREET EXTENSION

On each of the ten plans made, I have shown the extension of Orange Street from Crown Street practically straight to Commerce Street, the new station approach.

I have fully realized from the start that this will be an expensive street extension, but nevertheless, I am fully convinced that it will pay for itself within the next ten or fifteen years by the increase in values, as well as frontage on the extension, and through the general increase in development and values in the zone particularly served and benefited by this improvement.

Traffic statistics taken, for the same period of the same day, on Orange Street, between Center and Crown Streets, and in the corresponding block on Church and Temple Streets, showed about 30 per cent. more vehicles on both Orange and Temple Streets than on Church Street, which was supposed to be the most congested of the three. It must be borne in mind that Orange Street, finely paved and without car lines or the prospect of car lines, is one of the natural great arteries for traffic to and from the north.

It is planned to extend the westerly line of Orange Street between Chapel and Crown Streets, to George Street, thus making the width between Crown and George Streets about 100 feet. While this width is more than necessary, it will be valuable as an overflow opening in the heart of the city, and the character of the buildings now on the easterly side of this section is such, that it might be difficult to attempt to add to those properties by moving the easterly line to the west, although this question should be considered in the final plans. Between George and Commerce Streets it is planned to make

Orange Street about 85 feet in width. Some will criticize the proposed extension of Orange Street, not only because of its cost, but because of the present narrowness of Orange Street north of Crown Street and the very remote possibility of ever increasing this width. But from a business standpoint its importance cannot be overestimated. The heaviest part of the retail business on Chapel Street is between State and Church Streets. I make this statement with no intimate knowledge of the business on Chapel Street and with no reflection on that west of Church Street, but largely because Chapel Street has two sides, east of, and only one west of Church Street, devoted to business uses. And it seems to me that this great business center should have a more direct connection with the new station. I am also informed that the front foot value of land at the foot of Orange Street is about \$800.00, and that on Little Orange Street but \$200.00 or \$300.00, and I cannot see why, if Orange Street is extended to the south, the high values at the southerly end of Orange Street should not gradually extend over the new section, possibly with a slightly decreasing rate. With this new street, property on George Street, between Meadow and State Streets, would be greatly improved, and would soon become comparable with the present condition of property in the corresponding block on Crown Street. The triangular block, bounded by George, Whiting and Meadow Streets, would be practically bisected by Orange Street extension, and the value of property in this entire block, should be greatly enhanced in value within the next ten years. These important considerations also have a direct bearing upon the greatly needed accessions to our grand list. If Orange Street ended on the north at Chapel or Elm Streets, the extension would not be so important, but, with the approach completed as planned, Orange Street, Whitney Avenue, Temple and Church Streets would become important arteries to the station from the northerly section of the city—one which has developed very rapidly in recent years, and one which, in my opinion, will continue to expand rapidly.

These three traffic thoroughfares, together with State Street, will afford exceptional facilities for reaching the business district of New Haven, as well as the important sections beyond.

The extension of Orange Street, as herein outlined, should therefore be considered second only in importance to the station approach and one which can best be, and should be, carried out jointly with that plan.

## PART II

### UNION AVENUE, EXTENSION TO HOWARD AND KIMBERLY AVENUES

In connection with the new station approach, it is planned to extend Union Avenue, from its present terminus at Liberty Street, westerly for two blocks to the junction of Howard and Kimberly







View from the roof of the Gas Company's Office Building on Crown Street, looking southerly down the proposed extension of Orange Street toward the main station approach. Arrow shows Second Regiment Armory.

Avenues at the bridge over the main line tracks of the New York Division. In the traffic census recently taken it was found that Kimberly Avenue carried the heaviest vehicular traffic of any single street in New Haven. Inbound vehicles now follow Howard Avenue northerly to Congress Avenue or beyond, and then proceed more or less indirectly to the center of the city, making a long and wholly unnecessary detour. By extending Union Avenue merely two blocks, all of this traffic could be diverted directly to the new railroad station, and then to the heart of the city, over the new approach, thus greatly increasing the number of users and helping to quickly enhance realty values on the approach and adjoining streets, to say nothing of the great saving in time and expense. This new Union Avenue route to the center of New Haven would be much more direct than the present circuitous route, as Union Avenue would be almost a straight prolongation of Kimberly Avenue easterly, thus making of the two avenues practically one straight highway from West Haven to the new station. The new route for the residents of West Haven and all shore towns to the west of New Haven would not only be a more direct one, but it would also be a commodious and sightly thoroughfare. Union Avenue is 85 feet between street lines and 60 feet between curb lines, much wider than most New Haven streets. The objection to the location so near the railroad tracks will be entirely eliminated with the electrification of the New York Division. Furthermore, the grade of Union Avenue, from Cedar Street to Putnam Street, is so high above the general level of the railroad tracks and yards that a commanding view can be had of New Haven's splendid harbor, with its beautiful east shore setting and hilly background. This view will be even more attractive after the roundhouses and other railroad shops are removed and that business is transferred to the new Cedar Hill location. The desirability of using the new extension of Union Avenue for the main line tracks, or fast trolley service from New Haven to West Haven and beyond, should not be overlooked. Shore Line tourists, not desiring to stop in New Haven, would use this new route. In fact, if the contemplated plans are carried out, Kimberly Avenue, Union Avenue, Water Street and Forbes Avenue would become the favorite and popular shore line route for tourists passing through New Haven. The proposed extension of Union Avenue will involve the removal of several houses, but as most of these are comparatively light wooden structures, and as there is considerable vacant land in the vicinity, they can easily be moved and put in first-class rentable or saleable condition on new sites. Naturally, after Union Avenue extension is laid out and developed, it should be paved with some smooth surfaced, durable pavement. I consider the extension of Union Avenue to Howard and Kimberly Avenues of very great importance to future New Haven, and one which should be laid out and developed irre-

spective of the other contemplated improvements in connection with the new station approach. This particular improvement would do more than any other one thing to open up to building and business the western shore frontage beyond New Haven.

### PART III

## THE WIDENING AND IMPROVEMENT OF WATER STREET AND BRIDGE STREET FROM STATE STREET TO FORBES AVENUE

In addition to the proposed extension of Union Avenue to the west, there is included in the large general depot approach problem one certainly of equal, if not of far greater importance to the industrial and commercial development of New Haven, viz.: the widening and improvement of Water and Bridge Streets, from State Street to Forbes Avenue, east of the Quinnipiac River. This improvement alone, divorced of all others, is of far reaching importance and of no small magnitude. It is, in fact, so large, that if adopted, it must be a progressive improvement spread over several years. However, it is best at this time to agree upon and adopt the controlling features of the problem and let the details be worked out from time to time, as favorable opportunities are presented and funds of the city warrant.

Water Street today is narrow and congested. It is paved with rough Belgium blocks and has the Belle Dock grade crossing at the easterly end with a rough, narrow approach, between a maze of railroad tracks, to the Tomlinson bridge, a structure which will within a few years be entirely too narrow, if not actually unsafe for the heavy traffic which will be diverted over Water Street and Forbes Avenue, after the contemplated changes are realized. The recent traffic census showed that, of all of the arterial highways leading out of New Haven, the main road to East Haven at the city line carries the second largest number of vehicles, Kimberly Avenue standing first. Because of the numerous delays, as well as possible danger at the Belle Dock grade crossing, and the narrowness and roughness of Bridge and Water Streets, a large portion of the present vehicular traffic from the East Shore towns now approaches New Haven by way of Chapel Street, a roundabout route for people going to the railroad station.

### 1. LARGER INTERSECTION AT STATE AND WATER STREETS

Beginning at State Street and working easterly, the contemplated improvements are as follows: At State Street it is planned to build a retaining wall from the southerly end of the westerly abutment of the Water Street bridge, parallel with the present double trolley tracks, which now cut diagonally across the corner of Water and

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View from roof of building on the northeast corner of Whiting and Commerce Streets, looking southerly toward the flag-pole defining the central entrance of the new Railroad Station

State Streets from the viaduct to Union Avenue, so as to permit of the construction of a suitable sidewalk for pedestrians from the southerly side of Water Street at the westerly end of the bridge southwesterly to Union Avenue; then to use the balance of the triangular area, including both tracks, for a suitably paved roadway approach from Union Avenue and State Street to the above bridge. This will make a spacious intersection at State and Water Streets, two heavily used thoroughfares, where vehicular traffic will increase very rapidly after the new freight yards southeast of the Water Street bridge are developed and in operation.

## 2. WIDENING WATER STREET FROM RAILROAD CUT TO HAMILTON STREET

The Water Street bridge and the easterly approach, confined by a high retaining wall on the southerly side, now are 60 feet in width and probably sufficient for the traffic from the west, certainly so for many years to come. The Railroad Company now owns all of the land on the southerly side as far east as Brewery Street. The present buildings on this Water Street railroad frontage are to be demolished and a great receiving and distributing freight yard is to be laid out, bounded by Water and Brewery Streets, the harbor and the main line tracks.

From the end of the easterly approach of the Water Street bridge, easterly to Warren Street, Water Street is but 50 feet wide, while between Warren and Brewery Streets the width increases to 65 feet. It is planned to widen this section wholly on the southerly side to at least 90 feet. Into this section there will be crowded a large number of heavy vehicles from Wooster Street, through Olive, Warren and Brewery Streets, bound for the large new freight yards. This section of Water Street will therefore probably carry the largest number of vehicles and should be of generous width. From Brewery Street to the city's Supply Yard and Waterside Park, a distance of about 555 feet, it is planned to establish a new southerly line on Water Street, to work to when favorable opportunities are presented. From the westerly line of the city's supply property, between Brown and Chestnut Streets, to Hamilton Street, the westerly line of Sargent's large factories, there is nothing to prevent an immediate widening on the southerly side to 90 feet. The city buildings now are about 90 feet from the northerly street line, and the small row of trees in front of Waterside Park can easily be transplanted at the right season. From Hamilton Street easterly to Wallace Street, Water Street now is 65 feet in width, and this will probably suffice. Widening here would be prohibitory, on account of the great expense involved. Between Wallace Street and the Belle Dock grade crossing Water Street narrows from 65 to 58 feet.

### 3. THE ELIMINATION OF BELLE DOCK GRADE CROSSING

It is planned to carry Water Street over the railroad tracks on a bridge with suitable approaches 60 feet in width. In eliminating this grade crossing, it is planned to extend the trolley tracks southerly in East Street to the westerly approach and then turn them easterly in Water Street. This turn in the tracks will not only be bad from an operating standpoint, because the outer rails cannot well be elevated, but it will also necessitate a break in the grade of the westerly approach to favor this turn. Hence, the desirability of removing the trolley tracks in East Street, and substituting double tracks in Hamilton Street, the second street west of and parallel with East Street, or a south-bound track in Hamilton Street and a north-bound one in Wallace Street, between Chapel and Water Streets, should be seriously considered in the adoption of final plans. With tracks in Hamilton Street, the curves easterly into Water Street would be well west of and so as not to interfere with the grade of the westerly approach of the Belle Dock bridge. The Hamilton Street tracks might also be extended south of Chapel Street, to serve the large Sargent factory, and to form a part of the proposed trolley loop for the municipal dock and city Supply Yard.

### 4. THE WIDENING AND STRAIGHTENING OF BRIDGE STREET

Bridge Street between the Belle Dock tracks and Tomlinson bridge is but 50 feet in width, and has a short reversed curve near the westerly end of the Tomlinson bridge. It is intended to straighten and widen this section to the Belle Dock bridge width of 60 feet.

### 5. NEW TOMLINSON BRIDGE OVER THE QUINNIPIAC RIVER

The conditions obtaining at the present Tomlinson bridge are inimical to either public convenience or safety. The present bridge is believed to be structurally safe for the load now imposed upon it, yet it is of such a type of construction, that it would be as difficult to prove this assertion, as it would be that it was unsafe. The greatest danger, as all must admit, is not due to structural defects, but rather to the fact that there are no sidewalks, and pedestrians, auto, horse-drawn vehicles, trolley and freight cars are all thrown together into an extremely narrow roadway; and such conditions certainly are conducive to serious accidents. The fact that they

have thus far been averted is undoubtedly due to the knowledge people generally have of the present dangerous conditions and the extra precaution which is observed by the users of this narrow bridge. I have no doubt the condition of this bridge, together with the dangerous Belle Dock grade crossing, is doing more to retard the general growth of the east shore district than any other one thing. I cannot conceive of a more attractive residential district in New Haven than the high upland in the vicinity of Townsend Avenue; or a water frontage which holds greater possibilities for commercial and industrial development than the unimproved east shore south of Tomlinson bridge. While a new bridge could be built independent of the elimination of the Belle Dock grade crossing and the proposed widening and repaving of Bridge Street between the two, from an engineering standpoint at least, these two public works are so closely related, that a considerable saving could be effected by developing the two as one large project. Certainly the loss of time and general inconvenience to the traveling public, while the work was progressing, would be greatly reduced by concerted action.

The alignment of the new work, if possible, should be straight from the top of the new Belle Dock bridge to either the easterly or westerly end of the new Tomlinson bridge. Any angle or curve, combined with changes in grade in the approaches of the two, would, in my judgment, look exceedingly awkward. Plans in more detail must be made, as well as considerable study given to this particular feature of the two problems, before the adoption of final recommendations.

If there is sufficient room for successful operation, a lift rather than a draw span would be preferable for the new Tomlinson bridge.

Even if the present bridge now is structurally safe, the extremely unsatisfactory and dangerous surface conditions, together with the strategic location of this bridge, with reference to the street system and geography of New Haven, make it incumbent upon the city to replace this structure as soon as the city finances will permit with a new bridge, which will better satisfy the growing requirements, for quite naturally vehicular traffic will be greatly increased over this route, after the improvements herein referred to are materialized.

Beyond the Tomlinson bridge Forbes Avenue now is 62 feet wide and probably sufficient for all future needs. With these improvements completed, and with Bridge and Water Streets repaved with a smooth surfaced pavement, this route to the new station and the center of the city would become as attractive and popular for people of the east shore towns as Kimberly Avenue and Union Avenue would be for those from the west shore; and combined would make a most creditable shore line route through New Haven, as well as a more direct trolley route between the east and west shores.



## 6. WIDENING OF BREWERY STREET SOUTH OF WATER STREET

In connection with the above improvement of Water Street it is also planned to widen Brewery Street south of Water Street, wholly on the railroad or westerly side, sufficient to handle the heavy traffic to and from the great freight yard, and to suitably pave the new roadway. The 1813 vehicles recorded as moving on Wooster Street, during a ten-hour period, give some indication of the volume and character of heavy traffic in this busy part of New Haven, and a large increase will naturally follow the great railroad improvements. The detailed agreement with the Railroad Company would fix the new widths of Water, Brewery and Bridge Streets in front of railroad property, and the widths and grades of the approaches to the Belle Dock and Tomlinson bridges, the kind and apportionment of the cost of the new pavements, retaining walls, etc.; and possibly a time within which the improvements would be carried out, provided New Haven was ready to proceed with its part of the contract. The many details would be agreed upon by the administrative officials as the work progressed.

## 7. DEVELOPMENT OF CITY SUPPLY YARD

In connection with the further development of Water Street for manufacturing and industrial uses and the improvement of New Haven Harbor, described in Part IV of this report, I would recommend that plans be prepared for improving the city Supply Yard; for extending and enlarging the municipal dock; and for introducing freight service on Water Street, between the new freight yards at Brewery and Water Streets and the Belle Dock railroad tracks.

The city now owns a valuable tract of about six acres on the southerly side of Water Street, between Starin's dock on the west, and Chestnut Street and Waterside Park on the east, which is but partially developed and now is used as a city supply yard for the Public Works and Park Departments. This land is about 240 feet in width by 1005 feet in length, and offers great possibilities for future municipal uses. By filling in, raising and extending the southerly portion out to the harbor line, about 1.3 additional acres can be obtained and the supply yard would then be connected with the westerly end of the municipal dock.

While no plans have been made for the ultimate development of this property, I believe the time will come when it will be highly desirable, as well as economical for the city to have a trolley loop on, or connection with this property from the Water Street trolley line, for transporting city supplies and public works or city waste materials. New Haven is so large in area and so spread out that there would no doubt be a considerable saving in time and money by using trolley delivery of materials, if received by rail or water

in any considerable quantity. The time may also come when New Haven will be obliged to adopt the Brooklyn method of collecting ashes, rubbish and other city refuse, or the Cleveland system of garbage collection. In Brooklyn teams are used for hauling city refuse to centrally located stations in each district, where it is dumped into large bins, then into trolley freight cars, and hauled miles away toward Coney Island and other outlying sections, where it is used for filling and reclaiming low, wet, mosquito-breeding marshes. In Cleveland garbage is collected in a similar manner and hauled away on railroad cars to a reduction plant several miles outside of the city limits. If New Haven should at some future time adopt some method of disposing of city refuse and garbage by the use of incinerating or reduction plants, located on the shore or outside of the city limits, it might be of great advantage to have a trolley, harbor and railroad connection at the municipal dock.

#### 8. EXTENSION OF MUNICIPAL DOCK

The municipal dock could also well be extended to the west and north, and by widening the slip between the city and Starin properties to 100 feet in width, sufficiently to berth boats on each side and still have room for a line of boats to pass in between, the capacity of the municipal dock could be increased by about 200 per cent. In connection with such future extension, the question of providing extra storage space; storage or transfer sheds, and hoisting cranes or mechanical equipment for quickly and economically handling cargoes should be thoroughly and exhaustively considered. Without any particular effort, and with mechanical equipment wholly inadequate, the income from the municipal dock is rapidly increasing, the receipts for June and July of this year being, respectively, \$330.41 and \$416.10, as against \$151.45 and \$185.28 for corresponding months of 1911. It is believed that with sufficient room for storage and adequate mechanical equipment, the income from this dock could be raised to at least \$5,000 within two or three years.

The proposed trolley line on the city supply land might be laid out along the edge of the new dock, so that transfers from cars to boats, or *vice versa*, could easily be made.

I believe that the time is coming, and is not far distant, when much greater use will be made of trolley lines for the transportation of freight. The tendency of the cost of production and of distribution is upward, and the saving in the cost of transportation, by making greater use of street railways, may become so great an economic factor that its importance cannot be much longer overlooked. From the city's standpoint another compelling argument is, that for every ton of heavy freight, building or street material carried by cars, there is a considerable saving in wear and tear on

city streets. Personally, I cannot see any great objection to such street uses for public benefit, provided proper regulations as to speed and time are observed and the interference with passenger service is reduced to a reasonable minimum. The moving of freight in bulk from large centers of great activity on railroad lines to smaller centers of less activity without railroad facilities, is a question of great importance to commercial and industrial growth. Just how this growing business will be divided between auto trucks and trolley cars, the future will reveal. The former has the advantage of flexibility, while the latter effects great saving in the maintenance of roadways.

#### 9. RAILROAD FREIGHT SERVICE ON WATER STREET

After Water Street is widened and improved, it may also become highly important to extend the railroad freight service now in use between the Belle Dock tracks and the mills on the east bank of the Quinnipiac River westerly over Water Street to connect with the new freight yards at Brewery Street, for the purpose of delivering and removing freight in carload lots from manufacturing and industrial plants on Water Street. With such a plan in effect Water Street would become a beehive of commerce and industry and one of the greatest freighting streets, as well as one of the most important thoroughfares out of New Haven to the east. Hence, the necessity for the liberal width roadway already referred to.

After the removal of the "railroad farm," where the city now unloads thousands of gallons of road oil each year, it may also be of great advantage to the city to haul oil cars over Water Street and unload them on the city Supply Yard, where special facilities for quickly unloading these cars to avoid demurrage charges could be installed. Unless there is to be plenty of room in the new freight yard, I cannot see any other convenient and desirable central location for such uses.

### PART IV

#### IMPROVEMENT OF NEW HAVEN HARBOR

In connection with the new station approach, plans have been made for greatly improving New Haven's inner harbor. At the present time there are two large anchorage basins on the westerly side of the main channel, between the West River channel and Belle Dock, now entirely separated by Canal Dock and Long Wharf, which project out nearly to the main channel, and a large undredged area in their vicinity. The lower basin is about 700 feet wide, 3,200 feet long and 16 feet deep, and the upper one, in front of Waterside Park, is about 800 feet wide, 1,200 feet long and 15 feet deep. The present harbor line now coincides with the ends of these two docks, and it is planned to ask for a change in the harbor line which will

result in cutting off Canal Dock and Long Wharf to the new line, which would be straight from the corner of the City Dock at Waterside Park, to the present harbor line opposite Second Street prolongation on City Point, or straight to the angle in the harbor line opposite Sea Street at City Point. If the latter line, which is the more radical of the two, is adopted, it would be planned to pro-rate the frontage on the new harbor line, among the present shore owners on the present line. The adoption of the new outer line would permit of the construction of a large number of long new piers, depending upon the location of the bulkhead line with reference to the harbor line, south of the present railroad yards, and east of City Point, and would open up large possibilities in the future development of this port. The two alternate harbor lines have been submitted to the railroad officials and they are satisfied with the adoption of either line. It will be necessary to obtain the consent of the War Department, as well as a special act from the Connecticut Legislature, to carry these changes into effect. After the establishment of the new line, and the removal of the ends of the two piers by the Railroad Company, the United States Government would be asked to dredge out the area of about 40 acres, between the present two inner anchorage basins, thus making one splendid anchorage basin, over one mile in length, from 15 to 16 feet in depth and 700 to 800 feet in width. This plan would not only greatly improve the present harbor facilities, but would also give a commanding view down the harbor from the vicinity of Waterside Park. It is only equitable that the suggested land improvements of the city of New Haven should be accompanied by corresponding improvements in our harbor facilities, which would not only assist in restoring New Haven to its old position of prestige as a sea port, but also during the summer season, would attract to our port a great number of yachts and other pleasure crafts, which would be a source of great profit to our citizens.

Unless the plan of connecting the two upper anchorage basins is carried out, the United States Government will be obliged to cut back the easterly side of the main 400-foot channel opposite the central anchorage basin, in order to secure sufficient room in that vicinity.

It is believed that if the city and Railroad Company can reach a satisfactory agreement regarding the proposed change in the harbor line and the improvement of the harbor, which will meet the approval of the War Department and the incoming Connecticut Legislature, a recommendation will be made, and an appropriation asked for in the forthcoming report, on the re-survey of this harbor, which will provide for dredging out and connecting the two upper anchorage basins at an early date. The city will have no direct expense in connection with the contemplated harbor improvements, and will gain considerable additional land in the harbor in front of Bay View

Park, which can be filled out and utilized at some future time for park extension, recreation piers, or for any other similar municipal purpose.

The light now standing on the extreme end of Long Wharf, to define the westerly line of the main channel, could be transferred to a new location on the same alignment on the City Dock at the foot of Chestnut Street. If the development of the inner harbor of New Haven is to be undertaken on an extensive scale and carried forward consistently and persistently for a series of years, better results might be attained if the work was centralized under the authority and direction of a permanent Port Commission, similar to those which have brought the great ports of Europe, at Liverpool, Antwerp, Rotterdam and Hamburg to such a high degree of perfection.

I would especially recommend and urge the importance of immediate action, and an early decision upon the suggested improvements for New Haven Harbor.

## CONCLUSIONS

While some of the projects I have outlined in this report may appear to be partially or even wholly divorced from the station approach, the larger problem seems to me to be much broader in scope, and as one affecting the future of a large portion of the southerly section, or water frontage, of New Haven. Here is the Railroad Company proposing to spend in the neighborhood of six millions of dollars, between Cedar Street on the west, and Brewery Street on the east, and this large investment is not being made merely because New Haven is the headquarters of the great New Haven system. It is being invested because the present facilities are entirely inadequate for the tremendous railroad business poured into and passed through New Haven, from the six divisions radiating from this city. It is being invested because the Railroad Company knows that New Haven is growing rapidly, and also because it has the utmost confidence in the future greatness of this city as a railroad distributing point. Now, these great railroad changes involve, either directly or indirectly, other changes affecting people and corporations doing business with the Railroad Company, and while some of the improvements I have outlined may appear to be several years in advance of the New Haven of today, they are by no means future problems, and I have felt it my duty to call your attention to the great possibilities for the city of New Haven, in facing and solving these various problems now, even if the finances of the city will not permit all of them to be carried out at once. It is far better for us to plan farsightedly and comprehensively, and even then, two or three decades hence, we may be severely criticized for not looking even further into the future. The growth of our American

cities is so fast that we are more inclined to err on the side of conservatism than of progressiveism in planning large public works. Even the farsighted plans of many public service corporations do not keep up with the phenomenal business growth. Telephone and electric light companies, which plan their underground systems for an ultimate of fifteen or twenty years, frequently find their lines congested and inadequate within a decade, and enlargements have to be made. The railroad business is probably the best barometer of measuring growth in general business; and the tremendous amount of work done, and the enormous sums invested by American railroad corporations in the last decade for increased trackage, for reduction of grades, for improvement in alignment, and for increased terminal facilities in large cities, clearly indicate the confidence of railroad officials in the future greatness of this country. Within the memory of the present generation the Grand Central Station in New York City has been remodeled and enlarged several times, and the new terminal now nearing completion, as well as the magnificent new Pennsylvania Railroad Station, are so marvelous and so gigantic as to challenge the admiration of the whole world. These illustrations are cited for the purpose of inspiring us with renewed confidence in the future of New Haven. The quickest, easiest and surest way for New Haven to become a city of 200,000 or 300,000 people, is to keep in mind the city of 500,000 and plan accordingly for the fundamental groundwork of the bigger, busier and better New Haven. No city can expect to expand rapidly without great industrial development. Hence, every effort should be put forth, not only to encourage and assist our smaller industries, but especial emphasis should be laid upon the importance and necessity of bringing new industries to New Haven. To compete with other keen American cities, many of which are more favorably located with reference to raw material and distribution of finished product, New Haven must offer every reasonable inducement within her power to offset any natural advantages which others possess. If new industries can be attracted to New Haven by improving and developing the harbor, that should be done. If better railroad or trolley connections are desired for hauling freight in bulk, it should be provided. If more combined water and rail facilities are needed, New Haven can and should furnish them. The attitude of the city in all of these matters should be as broadminded and liberal as possible for great industrial expansion will also bring commercial and financial supremacy for the future and greater New Haven.

While all of the four large problems for the general improvement of the southerly section of this city are either directly or indirectly related, there is one great advantage in the choice of adoption, or order of precedence of execution of the plans, if the people in their wisdom decide that not all of them can be carried out, viz.: that any one or more of the four can be carried out independently of the

remaining plans. Only three of the four involve any expenditure by the city, and the cost of each of these, so far as permanent benefits are concerned, should involve only that for land and property taken. The physical improvement of each; the cost of grading, new curbing, sidewalks, catch basins, street lighting, street trees, new pavements, etc., should be considered more as temporary improvements.

In issuing bonds for these improvements, as well as for other public works, there should be a well understood distinction, as well as a sound financial policy.

Any city, in my opinion, is fully justified in issuing long term bonds for public improvements, where the benefits not only increase from year to year with the increase in population, but which inure to the benefit of all of the people; that improvements which are largely or wholly local in character should be carried out largely by the assessment of property in the zone particularly benefited; and that in no case should bonds be issued for a longer term than the reasonable life or use of the public work for which they are issued.

The first group for the longest term bonds, should include public parks, playgrounds, land for public buildings, and land for new streets, or the widening of existing streets, where the improvements have a direct bearing upon the health and happiness of the people, the expedition of business, the cost of production and of distribution, or indirectly upon the cost of living; or where the benefits accrue to the city as a whole, or where it is of an increasing nature and will be of even greater importance to future generations than to the present one. The taking of land and buildings for the station approach, the extension of Union Avenue, the extension of Orange Street, and the widening of Water Street, can well be classified in this group. The second group, for which shorter but comparatively long term bonds could well be issued, would include public buildings, such as City Hall, police, fire, libraries, schools, baths, hospitals; public docks and harbor improvements; masonry bridges, railroad depots, terminal facilities, etc.; where the improvements are reasonably permanent and the benefits accrue to several generations. In the third group would be all improvements of comparatively short life, and these should, if possible, always be paid for from current revenue; but if bonds are issued for them, they should not exceed the life or usefulness of the improvement. Several of the physical features of the four large harbor front improvements could well be classified in this third group.

Before closing, I wish to say that I have read and re-read with keen interest and a great deal of satisfaction the splendid report of Messrs. Cass Gilbert and Frederick Law Olmstead, America's leading architect and foremost landscapist, made to the Civic Improvement Commission of New Haven, after a thorough and exhaustive preliminary study of New Haven's present conditions and future possi-

bilities for large development in an intelligent, farsighted, and comprehensive way. And while the local conditions have changed somewhat in the interim, I believe my conclusions not only do not disagree, but rather harmonize to a very great extent with their general plan for the future and greater New Haven. If my plans do differ from theirs, I should be pleased to submit to their judgment, because all must recognize in Messrs. Gilbert and Olmstead America's leading exponents on modern city planning.

In all of the meetings of the joint committee, as well as in all of my private interviews, the officials of the Railroad Company have given every possible assistance, and have shown a disposition to meet the city halfway, and even more, toward carrying out these great public works, so that they will redound alike to the credit of the city and of the Railroad Company.

In closing, I wish to express my appreciation for the counsel and advice of all members of the General Committee, and for the assistance of all employees in the city and Railroad Company, who have in any way assisted in the preparation of the preliminary plans for the new station approach and associate problems.

Respectfully submitted,

FREDERICK L. FORD.



## APPENDIX A

Assessed valuation of land and buildings to be taken for the new station approach, Orange Street and Union Avenue extensions:

## MAIN APPROACH

## FROM GEORGE STREET TO CONGRESS AVENUE.

NUMBER.	STREET.	OWNER.	ASSESSED	VALUATION
			LAND.	BUILDINGS.
182-184	George	Mary J. Hulse.....	\$11,137	\$ 1,150
	Temple	John E. McPartland.....	13,580	14,000
159-161	Commerce	F. C. Bishop.....	3,575	2,100
155	"	Mary Walker.....	2,535	3,500
	Congress	Edw. McCarthy.....	14,300	2,000
	"	Abraham L. Starin.....		
	"	Simon Persky.....	21,000	17,000

## FROM CONGRESS AVENUE TO WATER STREET.

44-50	Congress	Unite L. Frank.....	23,300	12,300
52	"	Frank Wittstein.....	17,600	5,735
	Commerce	Dora Levy.....		
		F. Wittstein.....	720	
114-118	"	Eliz. B. Bartlett.....	13,420	10,350
Lot	"	Edw. Malley.....	7,680	
101	"	Edw. Malley.....	4,080	7,775
94-96	"	Henry Schoenberger et al.....	3,030	6,000
Lot	"	John J. Sullivan.....	3,150	
86-88	"	Est. John E. Hine Co., Inc.....	8,235	3,260
78-80	"	Constant A. Moeller.....	4,500	4,950
72-74	"	Henry J. Reynolds.....	1,485	2,415
70	"	Edward Spargo.....	1,850	720
64	"	John J. Kelly.....	2,760	1,000
Lot	"	John J. Kelly.....	1,800	
54	"	Elizabeth and Sarah J. Murtagh.....	2,615	
52	"	John J. Tiernan.....	4,920	1,200
Lot	"	Edw. F. Bishop.....	2,370	

## FROM WATER STREET TO UNION AVENUE.

Lot	Water	C. T. Driscoll.....	9,225	
270-272½	"	Wm. Carlson.....		
	"	Jacob Kaletsky.....	6,480	8,250
	"	Maria Rosa Ciarmello.....	3,500	2,400
Lot	"	Walter Garde.....	1,650	300
278-282	"	Dominic Romano.....	6,300	3,900
	W. Water	Charles T. Coyle.....	16,000	14,400
	Columbus	Charles T. Coyle ¾.....		
	Portsea	Geo. W. Curtiss ¾.....	10,000	13,500
			<hr/>	<hr/>
			\$222,897	\$138,205

Total assessed valuation of property required for main approach from George Street to the proposed new Union Station, including Coyle and Curtiss property for Station Plaza, \$361,102.

### ORANGE STREET EXTENSION FROM CROWN STREET TO COMMERCE STREET

#### FROM CROWN STREET TO GEORGE STREET.

NUMBER.	STREET.	OWNER.	ASSESSED	VALUATION
			LAND.	BUILDINGS.
66	Crown	Otto Wall.....	\$10,400	\$ 8,270,
70	"	N. H. Gas Light Co.....	15,440	23,900
18-24	Orange	N. H. Gas Light Co.....	6,380	6,790
14-16	"	Jane Tiernan.....	4,060	5,100
10-12	"	Jane Geelan.....	4,060	3,700
8	"	Michael Walsh.....	2,020	2,300
6	"	Jane Tiernan.....	2,040	2,300
75	George	Anna Hahn.....	11,375	5,800
68	"	C. J. Connors.....	17,460	6,250

#### FROM GEORGE STREET TO MEADOW STREET.

	George	State of Conn., Armory.....	44,400	51,200
	Meadow			
153-157	"	Willis M. Anthony.....	13,500	9,000
151	"	George Richgott.....	4,500	3,000
		FROM MEADOW STREET TO COMMERCE STREET.		
150	Meadow	Geo. H. Gilbert.....	12,355	3,505
144-146	"	Ellen N. Jenner.....	10,750	1,550
140-142	"	G. L. Armstrong.....	14,950	950
		Dorothy Q. Trowbridge		
		Hayes Q. Trowbridge		
		Edmund R. Trowbridge.....	21,300	2,400

\$194,990      \$133,015

Total assessed valuation of property required for Orange Street extension, including the whole of the Second Regiment Armory property, a part of which can be resold after the improvement, \$328,005.

### UNION AVENUE EXTENSION TO HOWARD AVENUE

NUMBER.	STREET.	OWNER.	ASSESSED	VALUATION
			LAND.	BUILDINGS.
429-431	Howard	James and Mary Kinney.....	\$2,370	\$4,600
425-427	"	John J. Hogan.....	1,920	4,000
423	"	Joel P. Foote et al.....	2,400	2,550
32-36	Rosette	Ida L. Aldrich.....	1,100	1,300
26	"	Wm. N. Gorham.....	750	1,780
24	"	John J. Kennedy.....	700	1,540
22	"	David C. J. Galway.....	630	2,270
18	"	Ernest S. Doolittle.....	585	2,100
16	"	Jos. L. Andrew.....	405	1,295
14	"	Warren Bristol.....	765	1,295
82-84	Cedar	Anna Reissinger.....	1,100	3,900

## RAILROAD STATION APPROACH, ETC.

NUMBER.	STREET.	OWNER.	ASSESSED VALUATION	
			LAND.	BUILDINGS.
87-89	Cedar	Wm. T. and Louisa Beckman.....	\$1,595	\$4,060
93	"	Jane Delaney.....	885	2,015
97	"	Harriet Hawken.....	300	100
46	Spring	Ella H. Burwell.....	300	
40-42-44	"	Juliette D. Hazel.....	1,200	
			<hr/>	<hr/>
			\$17,005	\$32,805

Total assessed valuation of property required for Union Avenue extension, one-half of cost of which should be recovered by resale of house on new sites, \$49,810.

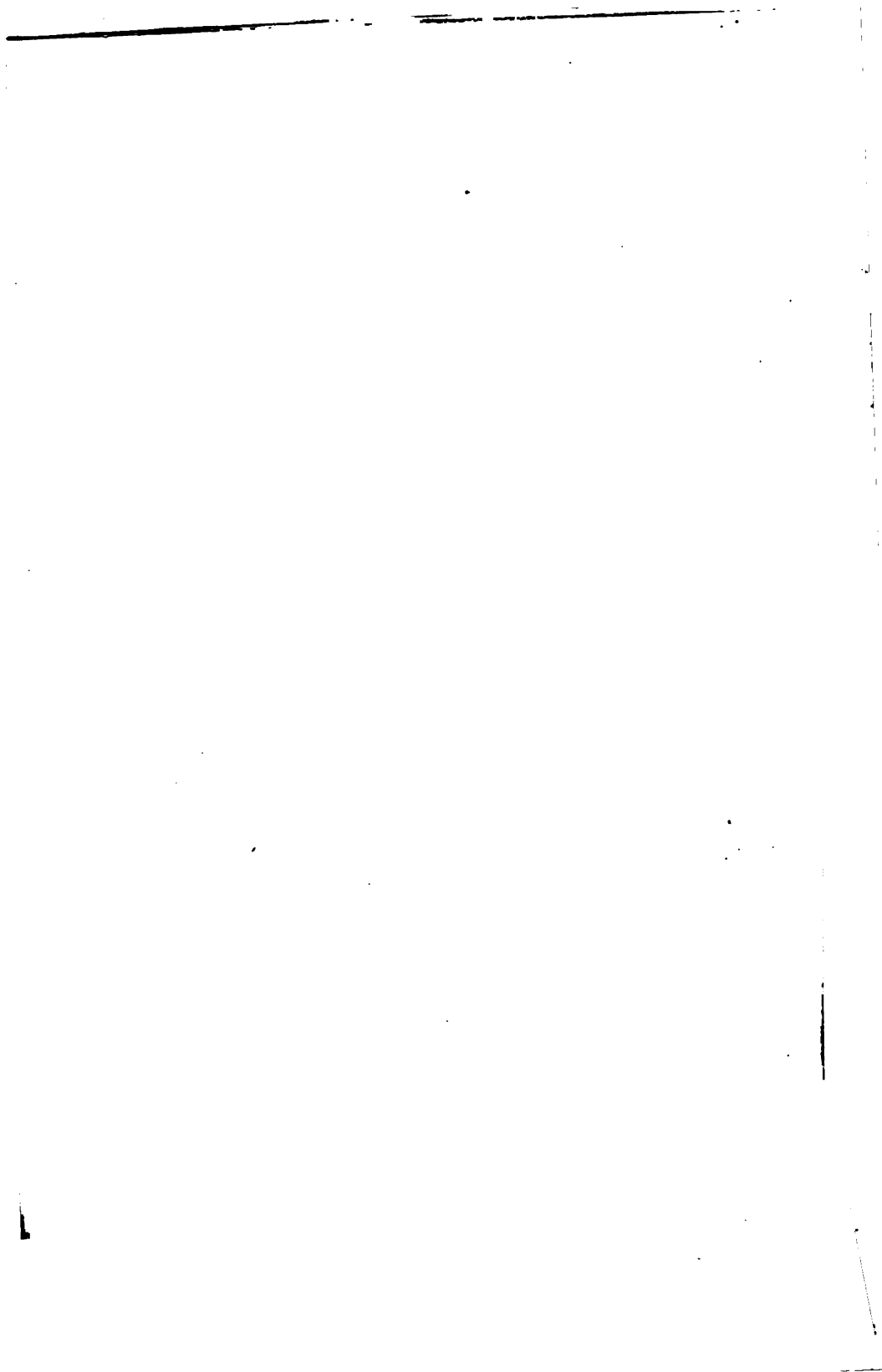
## RECAPITULATION

Main Approach.....	\$361,102
Orange Street Extension.....	328,005
Union Avenue Extension.....	49,810
<hr/>	
Grand Total.....	\$738,917





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